MOC Flexible Couplings - Oldham Type

High torque　High Allowable Misalignment　Small Eccentric Reaction Force

Structure

● Set Screw Type

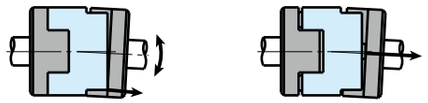
MOC

● Clamping Type

MOC-C

● Spacer's Projection Structure

Spacer's projection structure allows large angular to be effortlessly accepted. It reduces burden on the shaft.



(Without projection)

MOC

(With projection)

In the oldham-type coupling whose spacer has no projection, the spacer and hubs interfere with each other near outside diameter, so that the max. angular alignment is small and that the bending moment arises on the shaft.

NBK's oldham type coupling allows the angular alignment to be easily accepted since the projection serves as support. Bending moment does not arise. Therefore, the max. angular alignment is large and the burden on the shaft is reduced.

● Applicable motors

	MOC
Servomotor	●
Stepping Motor	●
General-purpose Motor	◎

◎: Excellent ●: Available

● Property

	MOC
High Torque	◎
Allowable Misalignment	◎
Small Eccentric Reaction Force	◎
Allowable Operating Temperature	−20℃ to 80℃

◎: Excellent ○: Very good

- This is an oldham type flexible coupling.
- The spacer uses resin containing eco-friendly recycled carbon fiber. Higher-torque specifications than MOR.
- Slippage of hubs and a spacer allows large eccentricity and angular alignment to be accepted.
- The eccentric reaction generated by misalignment is small and the burden on the shaft is reduced.
- The simple structure allows the unit to be easily assembled.
- Compliant with the Japan Machine Accessory Association organizational standards (TES 1403).

● Application

Sputtering device / Parts feeder / Industrial sewing machine / Amusement device

● Material/Finish

RoHS

	MOC / MOC-C
Hub	A2017 Anodized*1
Spacer	Polyacetal with Recycled Carbon Fiber
Hex Socket Set Screw	SCM435 Ferrosoferric Oxide Film (Black)
Hex Socket Head Cap Screw	SCM435 Ferrosoferric Oxide Film (Black)

*1: With regard to bore surface treatment, process needs may result in a mixture of parts with and without surface treatment. This will not lead to any issues in terms of coupling performance.

● Part Number Specification

MOC - 28C - 6 - 10

Product Symbol　Size　Bore Diameter

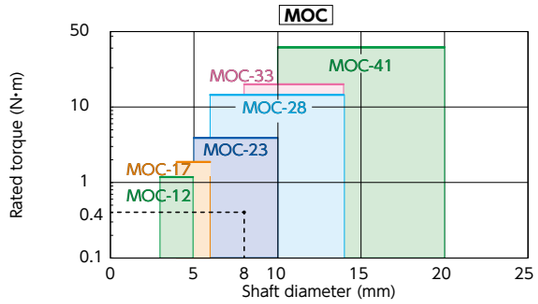
Please refer to dimensional table for part number specification.

Additional Keyway at Shaft Hole	Cleanroom Wash & Packaging	Change to Stainless Steel Screw
Available / Add'l charge	Please feel free to contact us	Available / Add'l charge

Selection

● Selection Based on Shaft Diameter and Rated Torque

The area bounded by the shaft diameter and rated torque indicates the selection size.



● Selection Example

In case of selected parameters of shaft diameter of ϕ 8 and load torque of 0.4N•m, the selection size is MOC-23.

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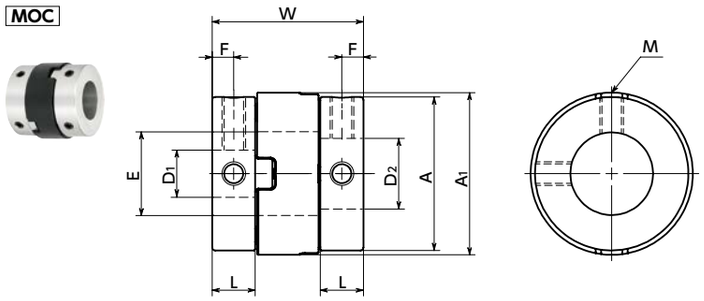
MOC Flexible Couplings - Oldham Type - Set Screw Type

High torque | High Allowable Misalignment | Small Eccentric Reaction Force

MOC



Dimensions

Unit : mm

Part Number 1	A	A1	L	W	E	F	M	Screw Tightening Torque (N・m)
MOC-12	12	12	3.9	14.4	5.2	1.9	M3	0.7
MOC-17	15	16.5	4.4	16	8.2	2.2	M3	0.7
MOC-23	20	22.5	5.8	21.6	12.2	2.9	M3	0.7
MOC-28	26	27.5	7.3	25.6	14.2	3.7	M4	1.7
MOC-33	30	32.5	10	32.6	15.2	5	M4	1.7
MOC-41	38	41	12.1	40.1	18.3	6.1	M5	4

Part Number	Standard Bore Diameter D1・D2 (Dimensional Allowance H8) 2											
	3	4	5	6	8	10	12	14	15	16	18	20
MOC-12	●	●	●									
MOC-17		●	●	●	●							
MOC-23			●	●	●	●	●					
MOC-28				●	●	●	●	●				
MOC-33					●	●	●	●	●	●		
MOC-41						●	●	●	●	●	●	●

- All products are provided with hex socket head cap screw.
- Recommended tolerance for shaft diameters is h6 and h7.
- A set of hubs with set screw type for one side and clamping type for the other side and others are available upon request.
- For the shaft insertion amount to the coupling, see Mounting/maintenance.

Additional Keyway at Shaft Hole	Cleanroom Wash & Packaging	Change to Stainless Steel Screw
Available / Add'l charge	Please feel free to contact us	Available / Add'l charge

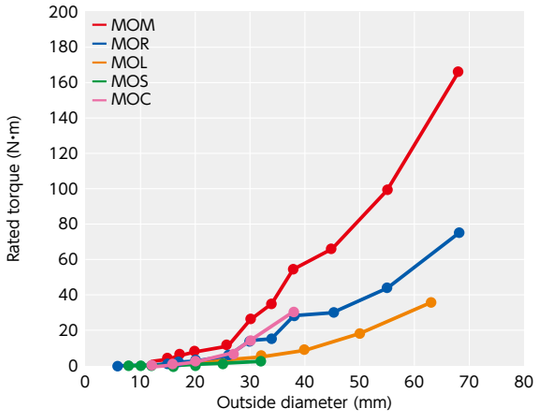
Performance

Part Number	Max. Bore Diameter (mm)	Keyway Additional Modification Max. Bore Diameter (mm)	Rated Torque *1 (N・m)	Maximum Torque *1 (N・m)	Max. Rotational Frequency (min^{-1})	Moment of Inertia *2 ($kg・m^2$)	Static Torsional Stiffness (N・m/rad)	Max. Lateral Misalignment (mm)	Max. Angular Misalignment (°)	Mass *2 (g)
MOC-12	5	–	1.2	2.1	3000	6.8×10^{-8}	25	1	3	3
MOC-17	8	8	1.8	3.6	3000	2.0×10^{-7}	50	1	3	5
MOC-23	12	12	4	8	3000	8.1×10^{-7}	150	1.2	3	11
MOC-28	14	14	8	14	3000	2.6×10^{-6}	350	1.5	3	24
MOC-33	16	16	16	25	3000	6.1×10^{-6}	450	2	3	39
MOC-41	20	20	30	46	3000	1.9×10^{-5}	1100	2.5	3	77

*1 : If ambient temperature exceeds 30℃, be sure to correct the rated torque and max. torque with temperature correction factor shown in the following table. The allowable operating temperature of MOC is −20℃ to 80℃.

*2 : These are values with max. bore diameter.

● Comparison of Rated Torque



● Ambient Temperature / Temperature Correction Factor

Ambient Temperature	Temperature Correction Factor
−20℃ to 30℃	1.00
30℃ to 40℃	0.80
40℃ to 60℃	0.70
60℃ to 80℃	0.55

● Part number specification

MOC-28-8-12 1 Set

1 2

MOC-23-SPCR Single Spacer

Product Symbol	Outside Diameter (Dimension A)	Single Spacer

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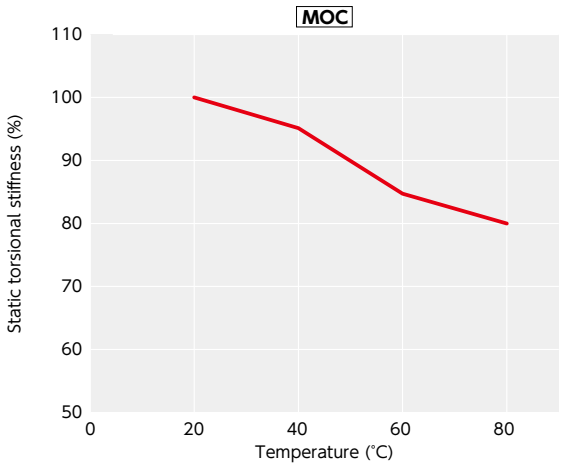
Technical Information

Change in Static Torsional Stiffness Due to Temperature

This is a value under the condition where the static torsional stiffness at 20℃ is 100%.
Changes in the static torsion spring constant within the operating temperature are shown in the graph.
Before using the unit, be aware of the deterioration of responsiveness.



Slip Torque

For set screw type **MOC**, see Aluminum Alloy Coupling under "Slip Torque of Coupling - Set Screw Type" for details.
As in the table below, the clamping type **MOC-C** has different slip torque according to the bore diameter.
Take care during selection.

Unit : N・m

Part Number	Bore Diameter											
	3	4	5	6	8	10	12	14	15	16	18	20
MOC-12C	0.8	1.9	2.4									
MOC-17C		2.3	3.5	4.8								
MOC-23C			3.7	4.2	5.7							
MOC-28C				4	9.3							
MOC-33C					7.5	13	17	20				
MOC-41C						19	20	24	30	34	37	38

- These are test values based on the conditions of shaft dimensional allowance: h7, hardness: 34 - 40 HRC, and screw tightening torque of the values described in **MOC-C** dimension tables. They are not guaranteed values.
- Slip torque changes with usage conditions. Carry out tests under conditions similar to actual conditions in advance.